

Amended
f3

2. (Thrice Amended) A recombinant allergen according to claim 48, obtainable by

a) identifying amino acid residues in a naturally occurring allergen which are conserved with more than 70% identity in all known of the homologous proteins within the taxonomic order from which said naturally occurring allergen originates;

b) defining at least one patch of conserved amino acid residues being coherently connected over at least 400 Å² of the surface of the three-dimensional structure of the naturally occurring allergen molecule as defined by having a solvent accessibility of at least 20%, said at least one patch comprising at least one B cell epitope; and

c) substituting at least one amino acid residue in said at least one patch with another non-conservative amino acid, wherein the α-carbon backbone tertiary structure of the allergen molecule is conserved.

Amended
f4

5. (Thrice Amended) A recombinant allergen according to claim 2, wherein said at least one patch consists of at least 15 amino acid residues.

Amended
f5

28. (Thrice Amended) A recombinant allergen according to claim 25, wherein the substitution is from Lys to Ala at position 72 or from Tyr to Ala at position 96.

Amended
f6

48. (Amended) A recombinant mutant allergen derived from a naturally occurring allergen in which at least one surface-exposed, amino acid residue of a B cell epitope at a position which is conserved in the amino acid sequences of homologous proteins within the taxonomic order from which the naturally occurring allergen originates, is substituted with an amino acid residue which is not conserved in the same position in the amino acid sequences of homologous proteins within the taxonomic order from which the naturally occurring allergen originates, wherein the α-carbon backbone tertiary structure of the recombinant allergen is

56
Conclude
conserved as compared with the α -carbon backbone tertiary structure of the naturally occurring allergen, and specific IgE binding to the mutant allergen is reduced compared to the IgE binding to the naturally occurring allergen.

57
50. (Amended) A recombinant allergen according to claim 14 wherein said allergen has one or more amino acid substitutions selected from the group consisting of:

- (i) Thr at position 10 of SEQ ID NO: 37 substituted with Pro;
- (ii) Asp at position 25 of SEQ ID NO: 37 substituted with Gly;
- (iii) Asn at position 28 of SEQ ID NO: 37 substituted with Thr, and Lys at position 32 of SEQ ID NO: 37 substituted with Gln;
- (iv) Glu at position 45 of SEQ ID NO: 37 substituted with Ser;
- (v) Asn at position 47 of SEQ ID NO: 37 substituted with Ser;
- (vi) Lys at position 55 of SEQ ID NO: 37 substituted with Asn;
- (vii) Thr at position 77 of SEQ ID NO: 37 substituted with Ala;
- (viii) Pro at position 108 of SEQ ID NO: 37 substituted with Gly; and
- (ix) Asn at position 28 of SEQ ID NO: 37 substituted with Thr, Lys at position 32 of SEQ ID NO: 37 substituted with Gln, Glu at position 45 of SEQ ID NO: 37 substituted with Ser and Pro at position 108 of SEQ ID NO: 37 substituted with Gly.

Please insert the following claim:

58
51. A recombinant allergen according to claim 5, wherein said at least one patch consists of 15-25 amino acid residues.